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(74) Agent: FRANCIS, Carol, L.; Bozicevic, Field & Francis LLP, Suite 200, 200 Middlefield Road, Menlo Park, CA 94025 (US).

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(71) Applicant (for all designated States except US): THE REGENTS OF THE UNIVERSITY OF CALIFORNIA [US/US]; 1111 Franklin Street, 12th Floor, Oakland, CA 94604-5200 (US).

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(72) Inventor; and

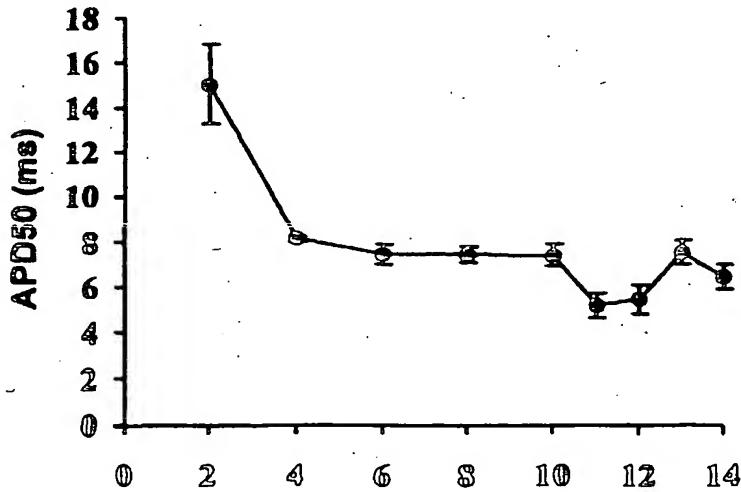
(75) Inventor/Applicant (for US only): LEE, Randall, J. [US/US]; University of California, Cardiac Electrophysiology, Rm. MU429, 500 Parnassus Avenue, San Francisco, CA 94143 (US).

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(57) Abstract: The invention provides methods for establishing electrical coupling between cardiomyocytes and recombinant cells which have been genetically engineered to express a gap junction protein, e.g., a connexin protein such as connexin 43 (Cx43) protein. The invention is based on the discovery that genetic modification of skeletal muscle cells to express a recombinant connexin, enables the genetically modified cells to establish electrocommunication with cardiac cells via gap junctions. The recombinant connexin-expressing cells can be used for repair of cardiac tissue and for treatment of cardiac disease by transplantation into cardiac tissue.

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